In the Claims:

1. (Currently Amended) A method for altering design data for producing a component, the method ~~particularly an integrated circuit arrangement,~~comprising:

~~in which~~prescribing design data ~~are prescribed (302)~~ which stipulate a geometrical design ~~(10)~~ which is to be altered for ~~a~~ the component~~t~~;

~~in which~~producing and storing an altered design from the design data, ~~are used to produce altered design data which are stored (308) and stipulate~~ the altered design stipulating a geometrical design ~~(10a)~~ which is altered locally in a region in comparison with the geometrical design ~~(10)~~ of the stored design data;

~~in which~~ascertaining ~~the altered design data (10a) are used to ascertain (312)~~ an assessment criterion ~~(BM1, GBM)~~ for the altered design ~~(10a)~~from the altered design data, the assessment criterion ascertained for an area for the altered design or the region including at least one of: a critical area for short circuits and a critical area for interruptions, the critical area ascertained assuming defects in a prescribed size distribution, the size distribution chosen such that defects which arise during production of the component are simulated;

~~in which~~comparing the assessment criterion ~~(GBM)~~ for the altered design ~~(10a) is compared (314)~~ with an assessment criterion ~~(BM1, GBM)~~ for the design ~~(10)~~ which is to be altered;

~~and in which~~retaining the unaltered design data or replacing the unaltered design data ~~are retained or replaced (316, 318)~~ with the altered design data depending on the comparison result; and

automatically performing ~~with~~ a plurality of cycles of alterations, comparisons and decisions about replacement ~~being performed automatically~~.

2. (Currently Amended) The method as claimed in claim 1, ~~characterized in that a~~wherein at least one of a position of the region ~~(100)~~ for the local alteration and/~~or~~ ~~the~~ a size of ~~this~~ the region ~~(100)~~ is/~~are~~ ascertained without using a random function~~, or in that a region (100) for the local~~

~~alteration and/or the size of this region is/are ascertained using a random function~~.

3. (Currently Amended) The method as claimed in claim 1 ~~or 2~~, ~~characterized in that a~~wherein at least one of a position of the region ~~(100)~~ for the local alteration and/~~or~~ ~~the~~ a size of ~~this~~ the region ~~(100)~~ is/~~are~~ selected on the basis of an even distribution ~~or by favoring regions and/or sizes which particularly impair the alteration of the assessment criterion (GBM) toward the aim of the method~~.

4. (Currently Amended) The method as claimed in ~~one of the preceding claims~~claim 1, ~~characterized in that a~~wherein the region ~~(100)~~ is selected for producing the altered design data ~~(10a)~~ in the design stipulated by the design data which are to be altered,

~~in that~~ design data are ascertained which relate to the design in the ~~selected~~ region ~~(100)~~,

and ~~in that~~ the ascertained design data are altered on the basis of a prescribed function which brings about ~~a~~ geometrical alteration of the design in the ~~selected~~ region.

5. (Currently Amended) The method as claimed in claim 4, ~~characterized in that the geometrical alteration is~~ wherein at least one of:

the geometrical alteration comprises relocation ~~(308)~~ of a design part in the region ~~(100)~~ by a prescribed distance or by a prescribed number of points of a grid dimension and in a prescribed direction,

the geometrical alteration comprises ~~and/or in that the geometrical alteration is~~ mirror imaging of ~~a~~ the design part in the region ~~(100)~~ on a prescribed mirror axis,

the geometrical alteration comprises ~~and/or in that the geometrical alteration is~~ rotation of ~~a~~ the design part in the region ~~(100)~~ about a prescribed center of rotation and through a prescribed angle of rotation,

the geometrical alteration comprises ~~and/or in that the geometrical alteration is~~ uniform or nonuniform expansion or contraction of ~~a~~

the design part in the region ~~(100)~~ in at least one prescribed direction and by at least one prescribed scaling factor,

the geometrical alteration ~~and/or in that the geometrical alteration~~ relates to smoothing of lines of ~~a~~ the design part in the region ~~(100)~~,

the geometrical alteration comprises ~~and/or in that the geometrical alteration is~~ replacement of the design part in the ~~selected~~ region ~~(100)~~ with a design part from another region of the design or with a prescribed design part or with a corresponding design part of a design from an earlier cycle ~~of the method~~, the corresponding region ~~being~~ situated at the same location in the design as the ~~selected~~ region or having a similar geometry to the ~~selected~~ region,

~~and~~ the corresponding ~~corresponding~~ region ~~preferably~~ is ~~being~~ a region from the best design ascertained in the method to date, and

the geometrical alteration ~~and/or in that the geometrical alteration~~ brings about a change to the total area of the changed design ~~(10a)~~ in comparison with ~~the~~ a total area of the design ~~(19)~~ which is to be changed.

6. (Currently Amended) The method as claimed in claim 4 ~~or 5~~, ~~characterized in that~~wherein at least one stipulation for the geometrical alteration is ascertained using a random function.

7. (Currently Amended) The method as claimed in ~~one of the preceding~~ claim 1~~s~~, ~~characterized in that~~wherein the ascertainment of the assessment criterion involves ~~-~~ at least one of:

~~ascertaining (310) a critical area for short circuits, which area is ascertained for the altered design or region (100), and/or a critical area for interruptions, which area is ascertained for the altered design (10a) or in the region (100),~~

~~and/or in that the ascertainment of the assessment criterion involves~~ ascertaining ~~the~~ a number of corners ~~(E1 to E4)~~ or the number of edges ~~(110 to 120)~~ in the altered design ~~(10a)~~ or in the region ~~(100)~~,

~~and/or in that the ascertainment of the assessment criterion involves~~ ascertaining ~~the~~ a current-carrying capacity ~~(D)~~ of at least one structure which is to be produced using the design ~~(10, 10a)~~,

~~and/or in that the ascertainment of the assessment criterion involves~~ ascertaining ~~the~~ a coupling capacitance between an element of an integrated circuit arrangement which is to be produced and at least one structure which is to be produced using the design ~~(10, 10a)~~,

~~and/or in that the ascertainment of the assessment criterion involves~~ ascertaining ~~the~~ an overlap ~~(U)~~ between ~~an~~ the element of ~~an~~ the integrated circuit arrangement which is to be produced and at least one structure which is to be produced using the design ~~(10, 10a)~~, and

~~and/or in that the ascertainment of the assessment criterion involves~~ calculating the total area of the changed design ~~(10a)~~.

8. (Currently Amended) The method as claimed in ~~one of the preceding~~ claims 1, ~~characterized in that~~wherein the assessment criterion is an overall assessment criterion ~~(GBM)~~ which is ascertained from at least one of:

at least two different assessment criteria ~~(BM1, BM2)~~, and/~~or in that~~ weighting factors ~~(W1, W2)~~ with different values ~~are~~ prescribed and ~~are~~ used for weighting the assessment criteria ~~(BM1, BM2)~~ when ascertaining the overall assessment criterion ~~(GBM)~~.

9. (Currently Amended) The method as claimed in ~~one of the preceding~~ claims 1, ~~characterized in that~~wherein a decision about retaining ~~and/~~or replacing the unaltered design data is made ~~(316, 318)~~ on the basis of a random function.

10. (Currently Amended) The method as claimed in claim 9, ~~characterized in that~~wherein the dependency of the decision on the random function is reduced on the basis of the number of cycles ~~(n)~~.

11. (Currently Amended) The method as claimed in ~~one of the preceding~~ claims 1, ~~characterized in that~~wherein ~~a~~ the design ~~(10, 10a)~~ has a grid dimension ~~chosen for it~~ which is equal to or less than ~~the~~ a width of a mask writing beam which is used for transferring the design ~~(10, 10a)~~ onto a lithographic mask~~, or in that a design (10, 10a) has a grid dimension chosen for it which is less than the width of the mask writing beam~~.

12. (Currently Amended) A data processing installation ~~(550)~~ for automatically altering design data for producing a component, the data processing installation ~~particularly an integrated circuit arrangement,~~comprising:

~~having~~ a memory unit ~~(552)~~ for storing design data which are to be altered and stipulate a geometrical design ~~(10)~~ which is to be altered for ~~a~~ the component~~,~~;

~~having~~ a change unit ~~(554)~~ which uses the design data to produce altered design data for an altered design ~~(10a)~~ and stores ~~them~~ the altered design data in the memory unit ~~(552),~~;

~~having~~ an assessment criterion ascertainment unit ~~(558 to 562)~~ which ascertains an assessment criterion ~~(GBM)~~ from the altered design data, the assessment criterion for an area ascertained for the altered design or region including at least one of a critical area for short circuits and a critical area for interruptions, the critical area being ascertained assuming defects in a prescribed size distribution, the size distribution chosen such that defects which arise during production of the component are simulated;

~~having~~ a comparison unit which compares the assessment criterion ~~(GBM)~~ for the altered design ~~(10a)~~ with an assessment criterion for the design which is to be altered~~,~~; and

~~and having~~ a control unit ~~(572)~~ which retains the unaltered design data or replaces the unaltered design data ~~them~~ with the altered design data depending on the comparison result,

~~and which automatically prompts~~ the performance of a plurality of cycles of alterations, comparisons and decisions about replacement being automatically prompted.

13. (Cancelled)

14. (Currently Amended) A program or data store having a program which contains a command sequence whose execution by a processor ~~(600)~~ involves carrying out a method ~~as claimed in one of claims 1 to 11~~ for altering design data for producing a component, the method comprising:

prescribing design data which stipulate a geometrical design which is to be altered for the component;

producing and storing an altered design from the design data, the altered design stipulating a geometrical design which is altered locally in comparison with the geometrical design of the stored design data in a region;

ascertaining an assessment criterion for the altered design from the altered design data, the assessment criterion for an area ascertained for the altered design or region including at least one of: a critical area for short circuits and a critical area for interruptions, the critical area ascertained assuming defects in a prescribed size distribution, the size distribution chosen such that defects which arise during production of the component are simulated;

comparing the assessment criterion for the altered design with an assessment criterion for the design which is to be altered;

retaining the unaltered design data or replacing the unaltered design data with the altered design data depending on the comparison result; and

automatically performing a plurality of cycles of alterations, comparisons and decisions about replacement.

15. (New) The method as claimed in claim 1, wherein at least one of a position of the region for the local alteration and a size of the region is ascertained using a random function.

16. (New) The method as claimed in claim 1, wherein at least one of a position of the region for the local alteration and a size of the region is selected by favoring at least one of regions and sizes which particularly impair the alteration of the assessment criterion toward the aim of the method.

17. (New) The data processing installation as claimed in claim 12, wherein at least one of a position of the region for the local alteration and a size of the region is ascertained without using a random function.

18. (New) The data processing installation as claimed in claim 12, wherein at least one of a position of the region for the local alteration and a size of the region is selected on the basis of an even distribution.

19. (New) The data processing installation as claimed in claim 12, wherein the region is selected for producing the altered design data in the design stipulated by the design data which are to be altered, design data are ascertained which relate to the design in the region, and the ascertained design data are altered on the basis of a prescribed function which brings about geometrical alteration of the design in the region.

20. (New) The data processing installation as claimed in claim 19, wherein at least one of:

the geometrical alteration comprises relocation of a design part in the region by a prescribed distance or by a prescribed number of points of a grid dimension and in a prescribed direction,

the geometrical alteration comprises mirror imaging of the design part in the region on a prescribed mirror axis,

the geometrical alteration comprises rotation of the design part in the region about a prescribed center of rotation and through a prescribed angle of rotation,

the geometrical alteration comprises uniform or nonuniform expansion or contraction of the design part in the region in at least one prescribed direction and by at least one prescribed scaling factor,

the geometrical alteration relates to smoothing of lines of the design part in the region,

the geometrical alteration comprises replacement of the design part in the region with a design part from another region of the design or with a prescribed design part or with a corresponding design part of a design from an earlier cycle, the corresponding region situated at the same location in the design as the region or having a similar geometry to the region, the corresponding region is a region from the best design ascertained in the method to date, and

the geometrical alteration brings about a change to the total area of the changed design in comparison with a total area of the design which is to be changed.

21. (New) The data processing installation as claimed in claim 19, wherein at least one stipulation for the geometrical alteration is ascertained using a random function.

22. (New) The data processing installation as claimed in claim 12, wherein the ascertainment of the assessment criterion involves at least one of:

ascertaining a number of corners or the number of edges in the altered design or in the region,

ascertaining a current-carrying capacity of at least one structure which is to be produced using the design,

ascertaining a coupling capacitance between an element of an integrated circuit arrangement which is to be produced and at least one structure which is to be produced using the design,

ascertaining an overlap between the element of the integrated circuit arrangement which is to be produced and at least one structure which is to be produced using the design, and

calculating the total area of the changed design.

23. (New) The data processing installation as claimed in claim 12, wherein the assessment criterion is an overall assessment criterion which is ascertained from at least one of:

at least two different assessment criteria, and

weighting factors with different values prescribed and used for weighting the assessment criteria when ascertaining the overall assessment criterion.

24. (New) The data processing installation as claimed in claim 12, wherein a decision about retaining or replacing the unaltered design data is made on the basis of a random function.

25. (New) The data processing installation as claimed in claim 24, wherein the dependency of the decision on the random function is reduced on the basis of the number of cycles.

26. (New) The data processing installation as claimed in claim 12, wherein the design has a grid dimension which is equal to or less than a width of a mask writing beam which is used for transferring the design onto a lithographic mask.

27. (New) The data processing installation as claimed in claim 12, wherein at least one of a position of the region for the local alteration and a size of the region is ascertained using a random function.

28. (New) The data processing installation as claimed in claim 12, wherein at least one of a position of the region for the local alteration and a size of the region is selected by favoring at least one of regions and sizes which particularly impair the alteration of the assessment criterion toward the aim of the method.